Configuration of Park Air C4 Cabinets

V5-O-C4CONFIG Issue 3

This module will:

- Explain basic safety precautions
- Introduce the Park Air C4 cabinet design
- Identify system components
- Describe the system component wiring
- Demonstrate system component installation

Configuration of Park Air C4 Cabinets

Warnings

- **Dangerous Voltage:**

  You must be suitably qualified to terminate a mains supply to the cabinet

- **Earth connection:**

  This cabinet must be earthed

- **Unauthorised modifications:**

  Changes or modifications made to this cabinet or system components, without the approval of Park Air, could invalidate the user's authority to operate the equipment

Configuration of Park Air C4 Cabinets

The Park Air C4 Cabinet design

- A new approach to the design of the Park Air C4 Cabinet has resulted in a completely new way of integrating components
- The simplified design ensures speed of installation, ample ventilation and simplified cable management



The Park Air C4 Cabinet

- 30 or 40 U
- Up to 40 radios or filters per cabinet



Introduction

- Tool free installation
- Shelf slots into cabinet and secures with thumb screws
- Radios connect to shelves with a single thumb screw
- Clip on DIN rail
- 19” rack fixing for 3rd party components

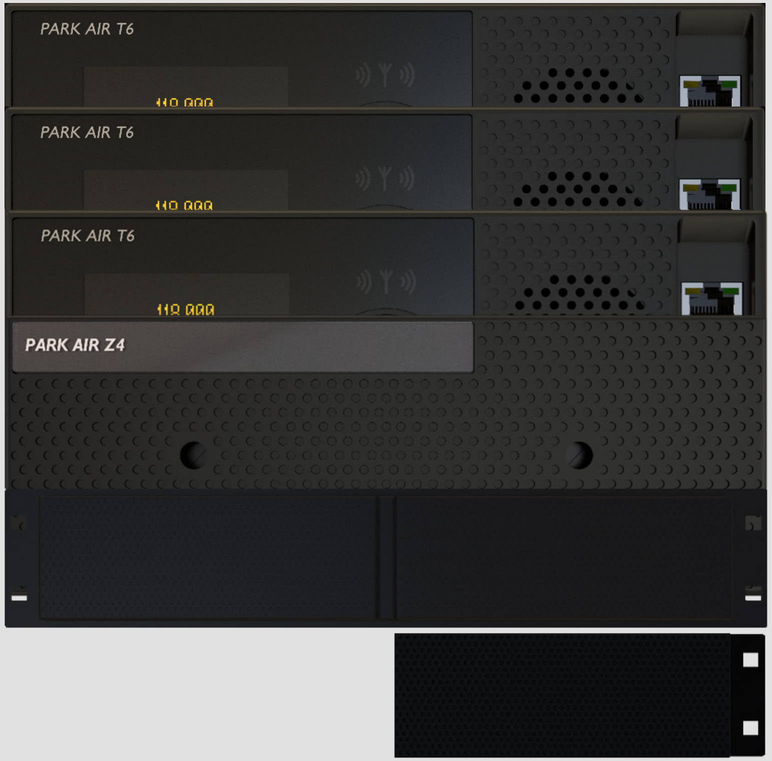
Features

- Integral cable management
- Integral power distribution
- Optional lockable rear door
- Optional baying kits



Front view of cabinet components

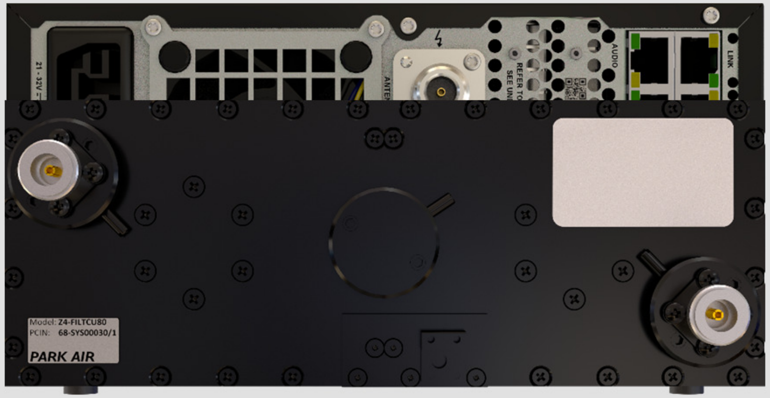
- Transmitter
- Receiver
- Transceiver
- Filter
- Blank panel

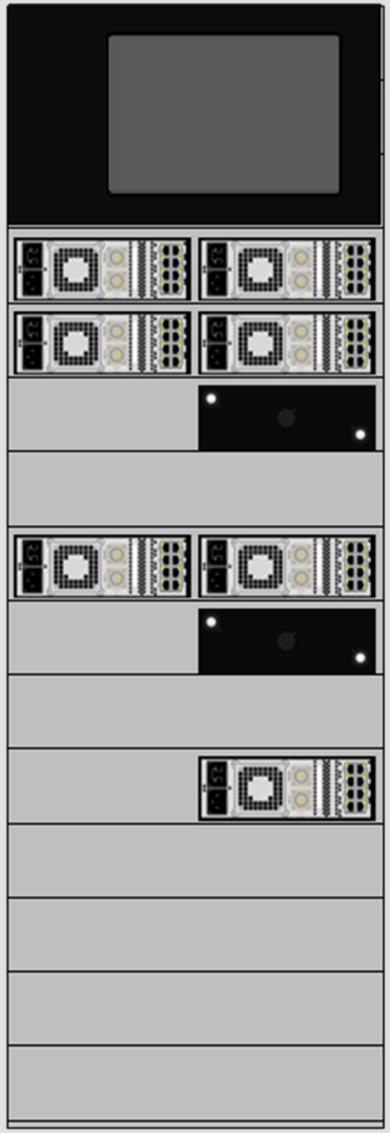




Rear view of cabinet components

- Radio
- Filter

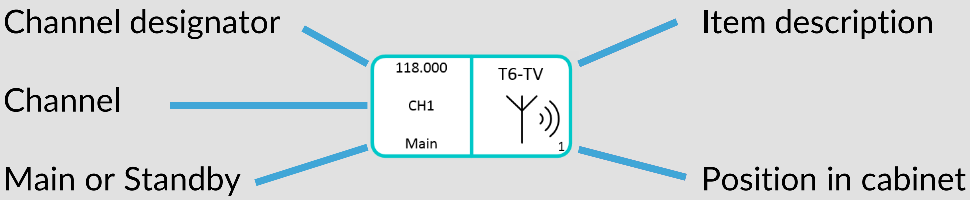


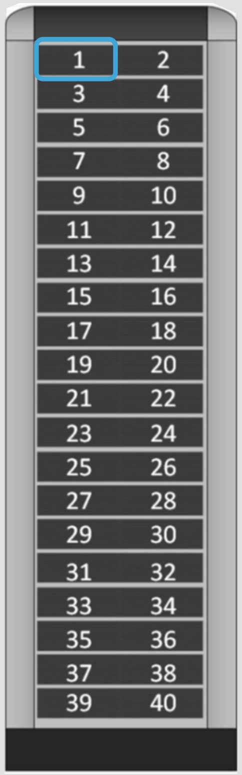


Configuration of Park Air C4 Cabinets

System component positions

- Cabinets have numbered equipment positions





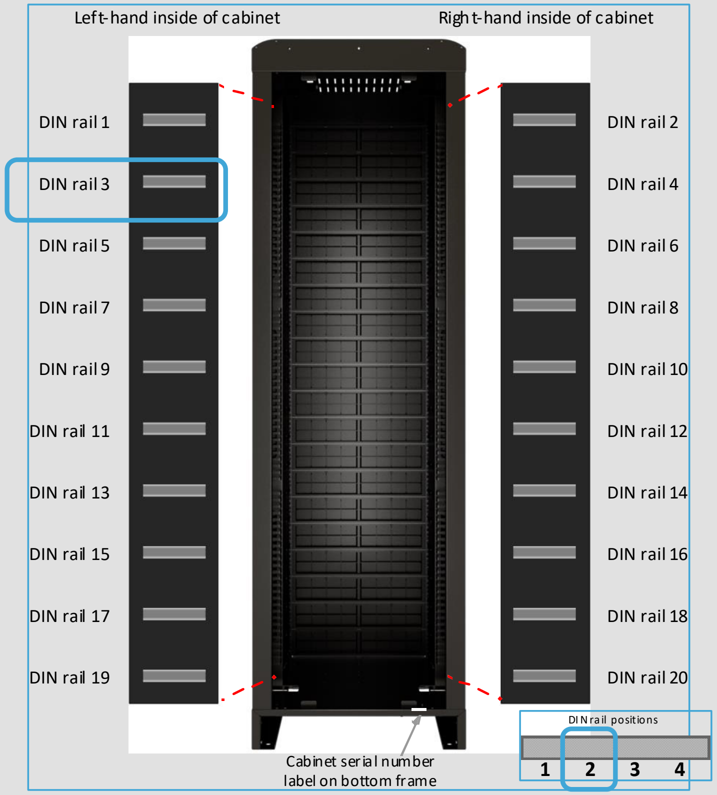
System component positions

- Cabinets also have numbered DIN rail positions

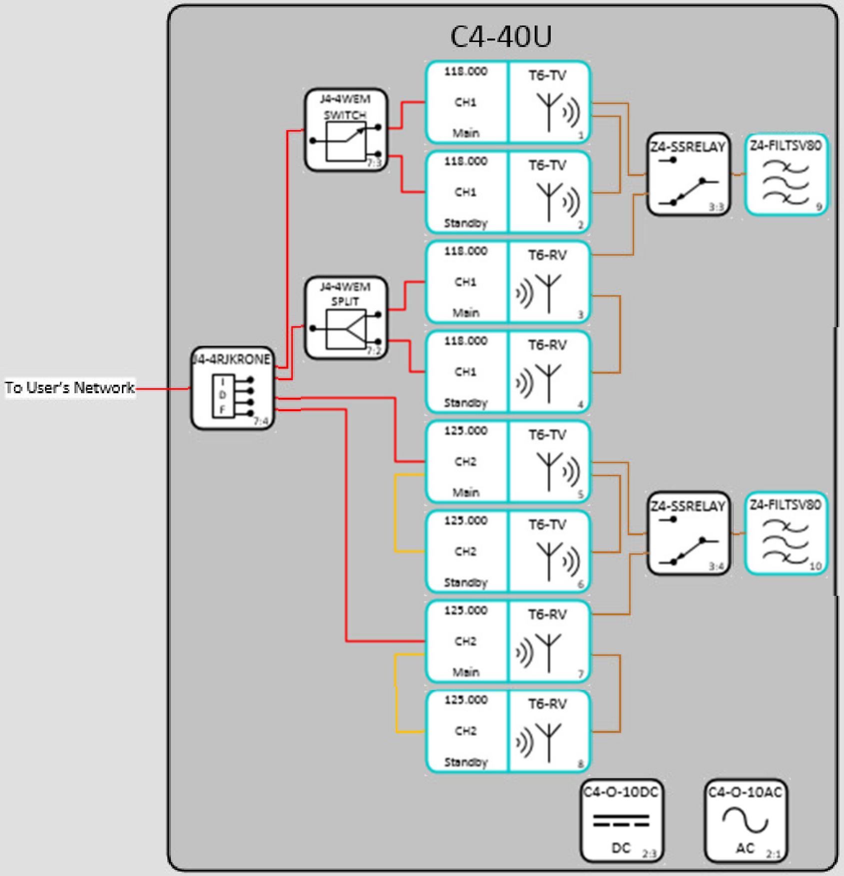


Item description

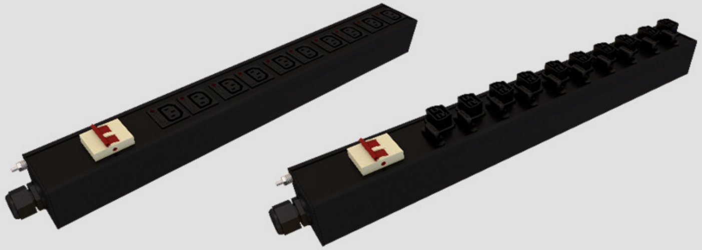
Item position in cabinet (DIN rail 3 position 2)

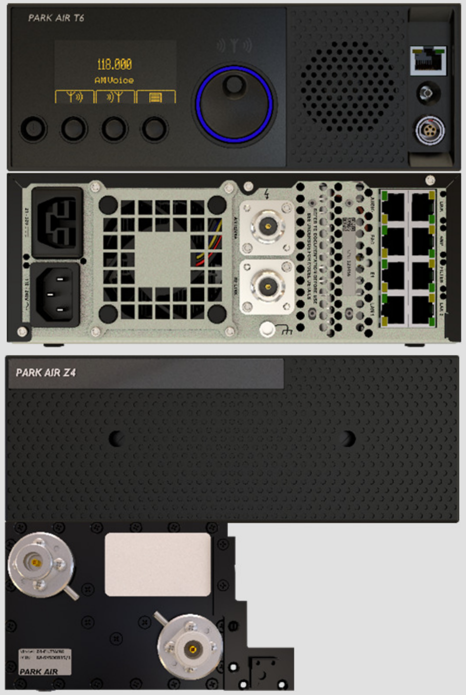


4-wire E&M system













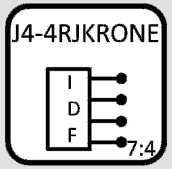
IP Connections (LAN)
E1 Connections
Filter
Amplifier
Facilities
Audio Link
Audio
RF Connections
Power Supply



J4 Krone interface

- Four RJ45 connectors to Krone IDC
- Required when a customer specifies a Krone interface



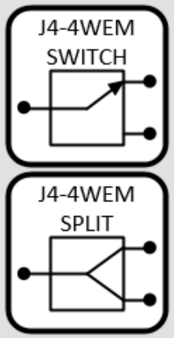


J4 4-wire E&M components

- The J4 4W E&M components connect radios to 4-wire E&M audio lines
- Switch or splitter, which connects audio lines to a pair of radios whilst maintaining correct line impedance





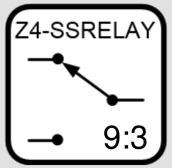




Z4 solid state relay

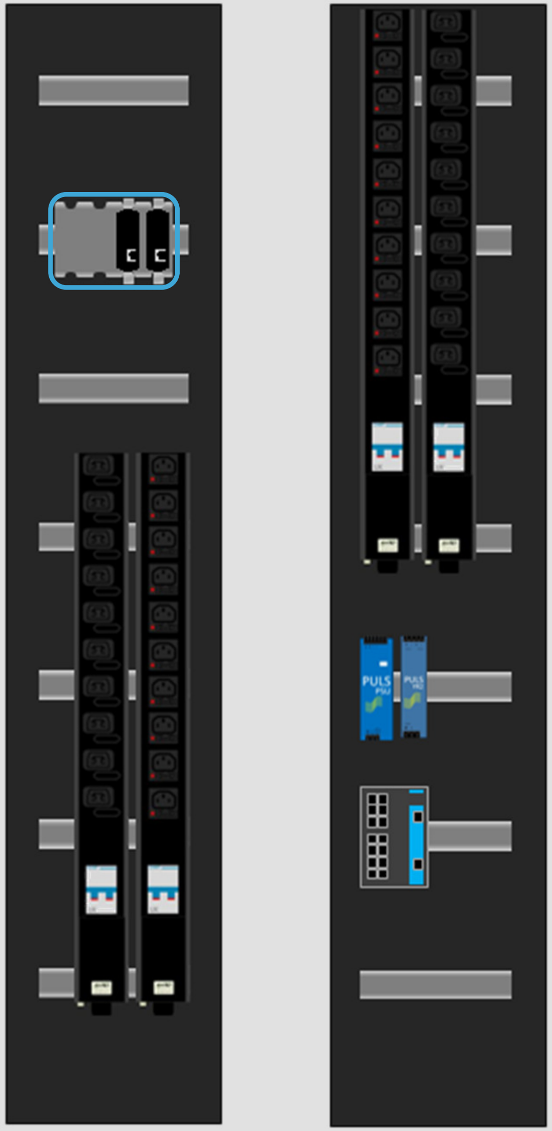
- Z4 solid state relay for RF switching
- Tool free installation into clip on DIN rail





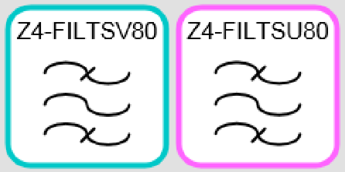
Z4 solid state relay





Z4 filter – 80 mm fixed cavity

- Single filter for use with one channel

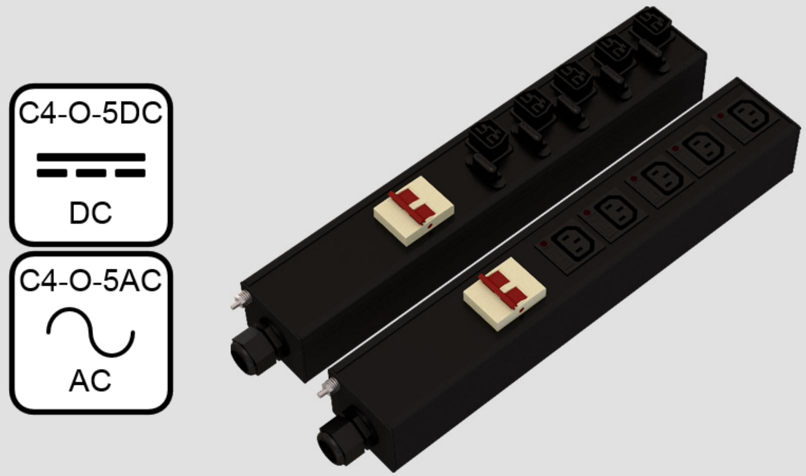




Power distribution

- AC and DC power distribution
- Cabinet isolation of AC and DC

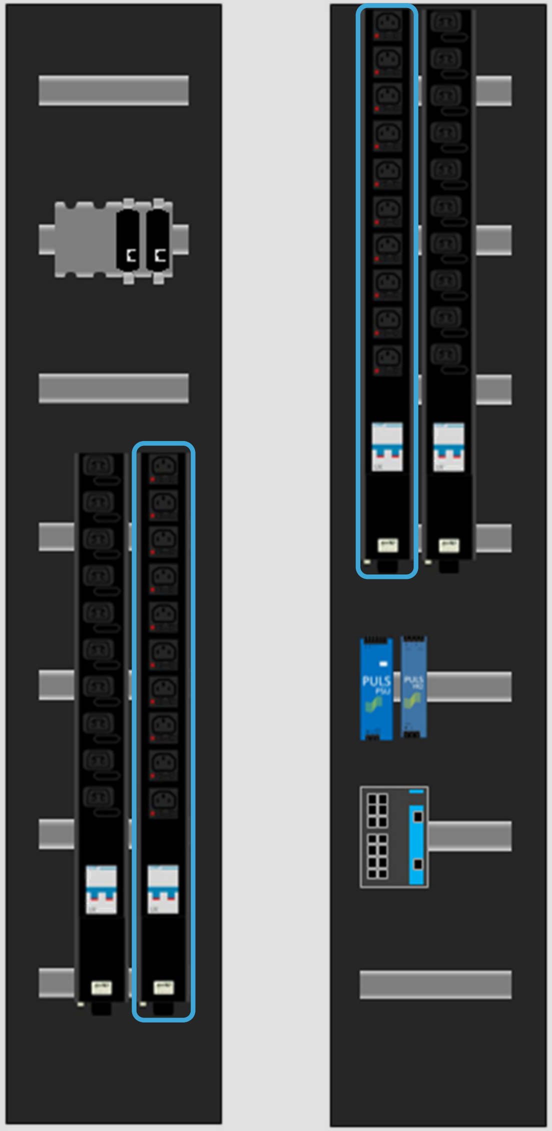




Power distribution

- AC power distribution



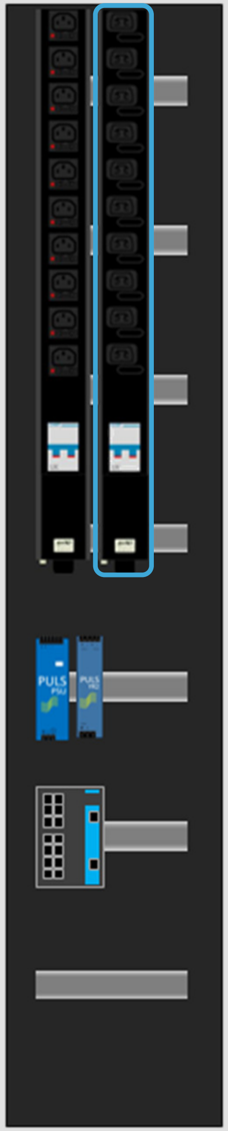


Power distribution

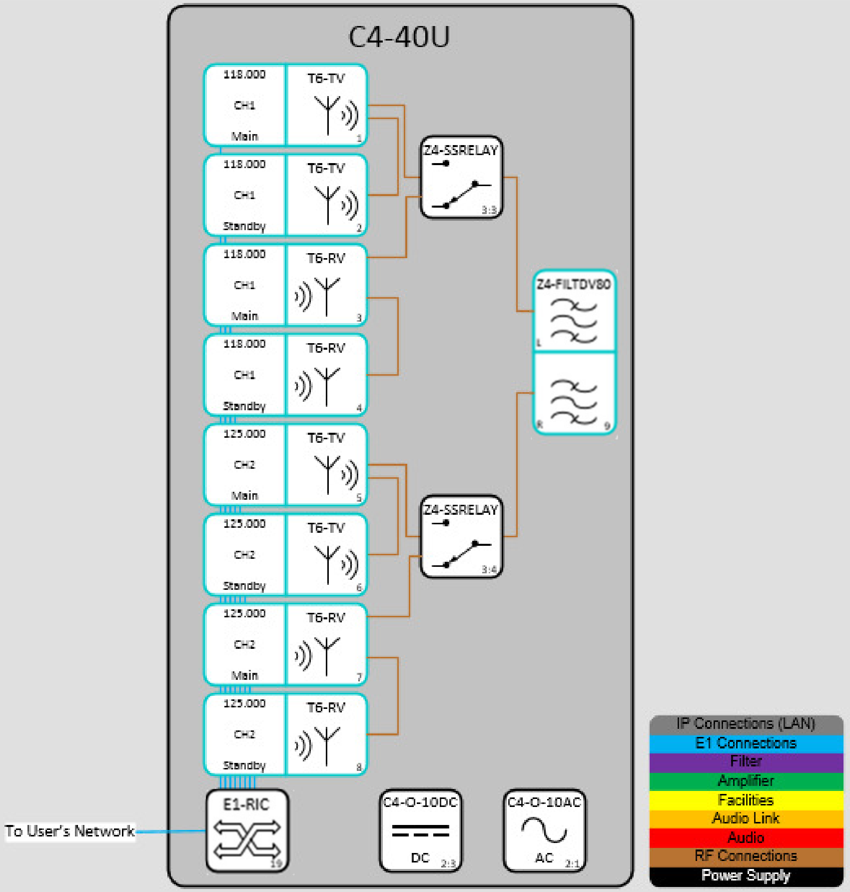
- DC power distribution







E1 system

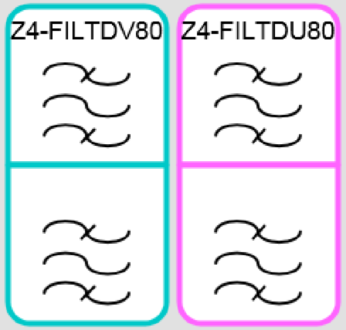

C4-40U
118.000
CH1
Main
T6-TV
118.000
CH1
Standby
T6-TV
118.000
CH1
Main
T6-RV
118.000
CH1
Standby
T6-RV
125.000
CH2
Main
T6-TV
125.000
CH2
Standby
T6-TV
125.000
CH2
Main
T6-RV
125.000
CH2
Standby
T6-RV
Z4-SSRELAY
Z4-SSRELAY
Z4-FILTDV80
E1-RIC
C4-O-10DC
DC
C4-O-10AC
AC
To User's Network
IP Connections (LAN)
E1 Connections
Filter
Amplifier
Facilities
Audio Link
Audio
RF Connections
Power Supply


PARK AIR Z4



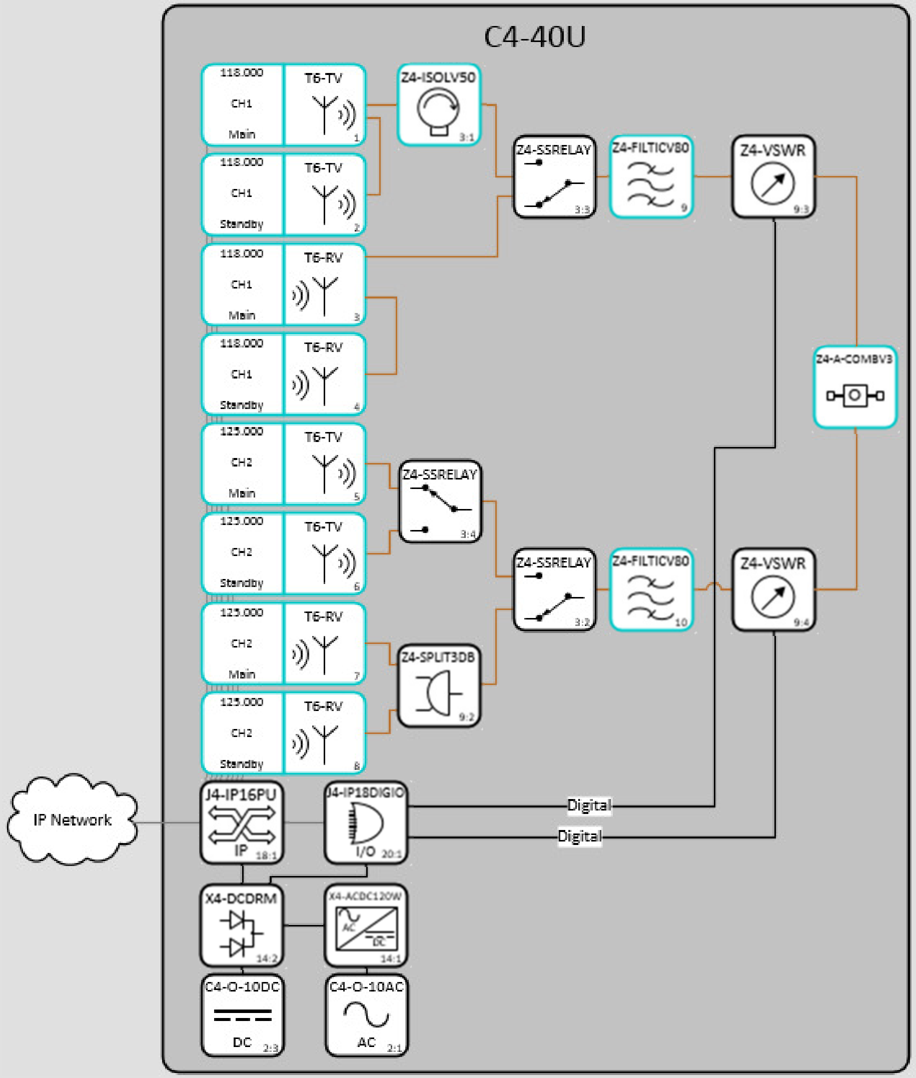
Z4 filter – 80 mm fixed cavity

- Dual





IP system



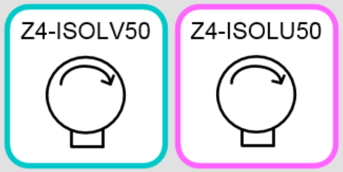
- IP Connections (LAN)
- E1 Connections
- Filter
- Amplifier
- Facilities
- Audio Link
- Audio
- RF Connections
- Power Supply

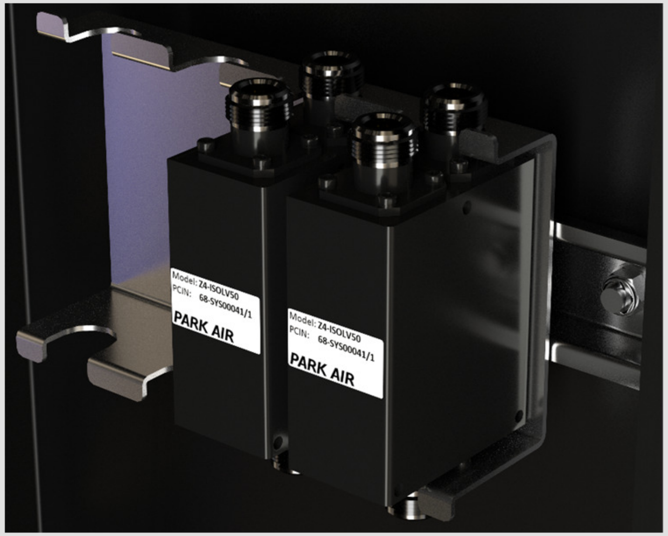


Z4 RF isolator

- Provides 19dB VHF (17dB UHF) reverse isolation between radio and antenna

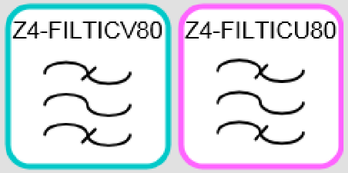






Z4 filter – 80 mm fixed cavity

- Iris coupled





Z4 VSWR monitor

- The Z4 VSWR Monitor is used to monitor VSWR in a channel where an RF isolator is in use

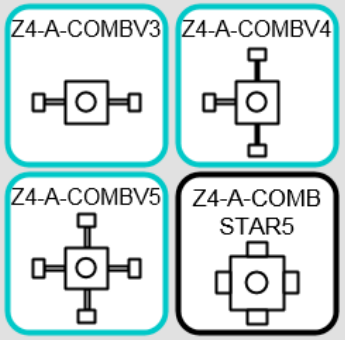






Z4 star combiner

- Used to combine filter outputs into a single antenna





Z4 RF splitter

- Splits a single RF feed two ways for interfacing to main/standby radio pairs



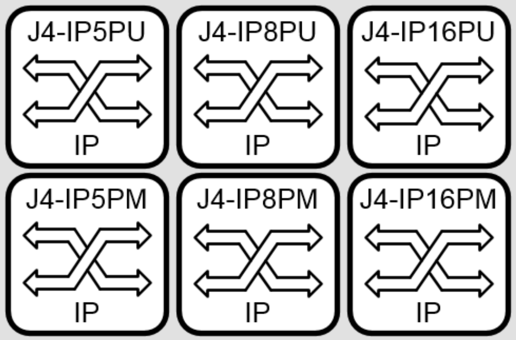




J4 Ethernet switch

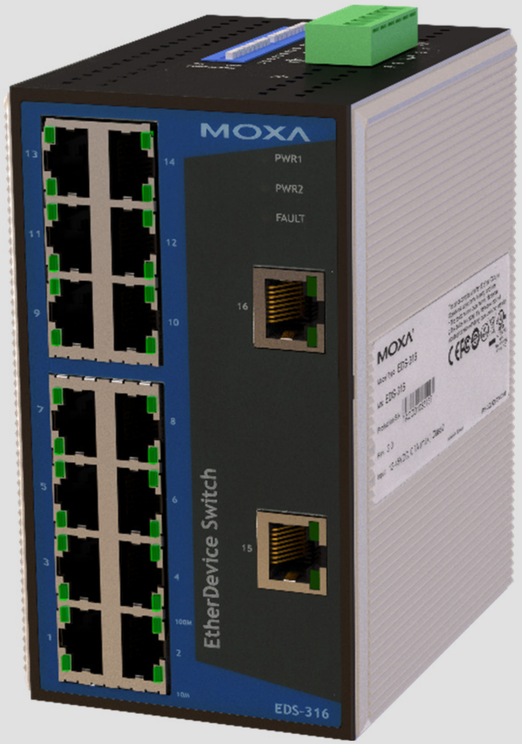
- J4 managed and unmanaged Ethernet switches combine safety with flexibility for connection to the core IP network

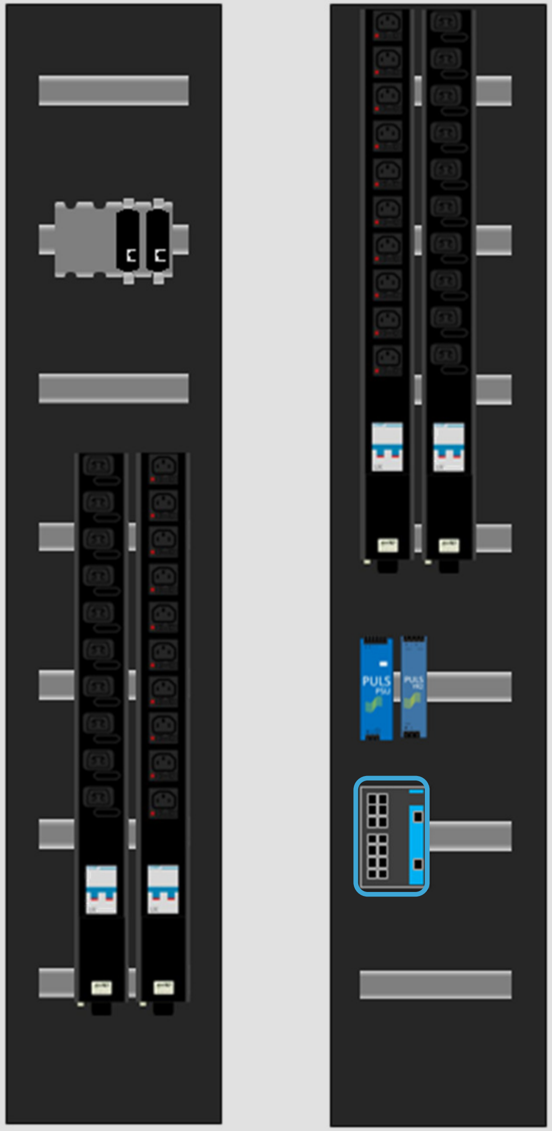






J4 Ethernet switch

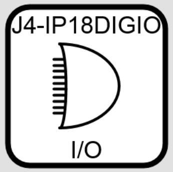




J4 Ethernet I/O

- 18 channel digital I/O to Ethernet converter
- Tool free installation into clip on DIN rail

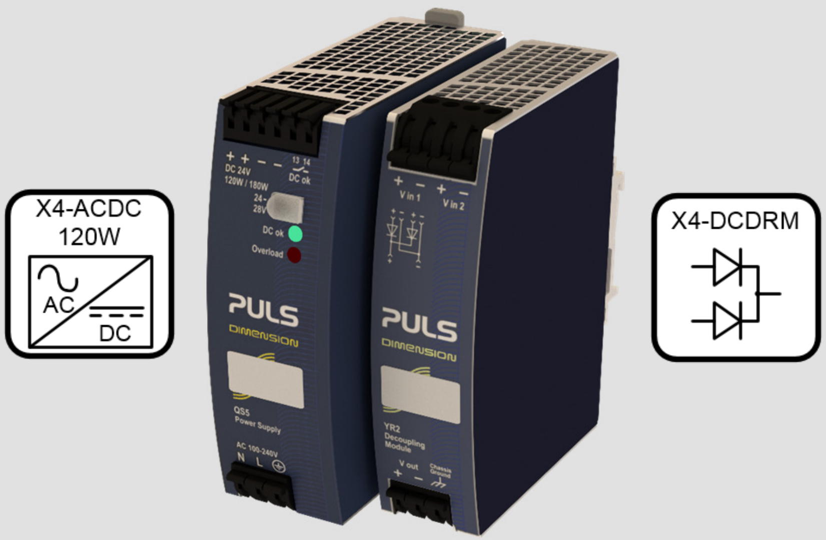




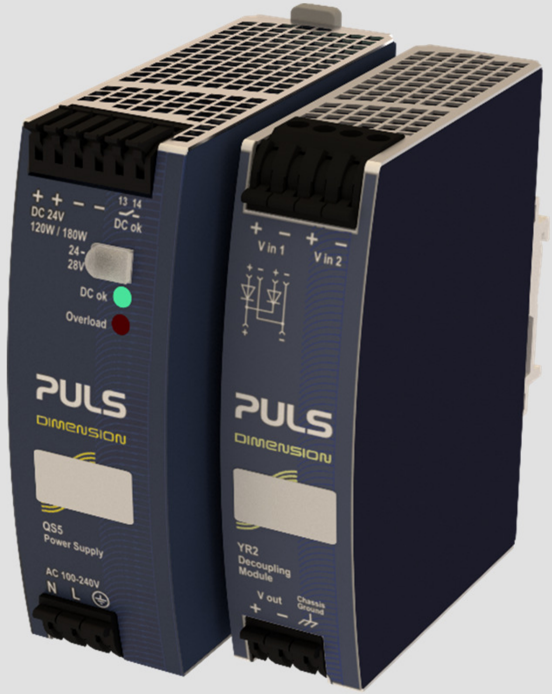


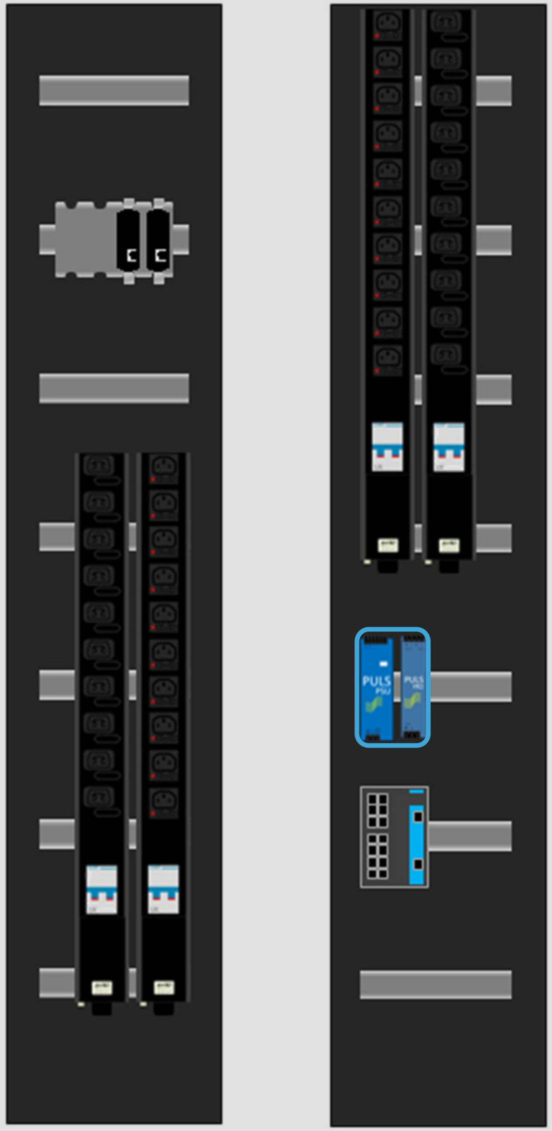
X4 DC power units

- Stable, high efficiency
- 24 V DC, 5 A (120 W)



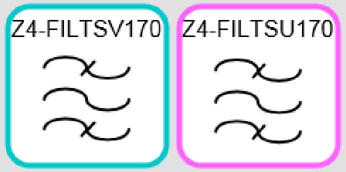
X4 DC power units

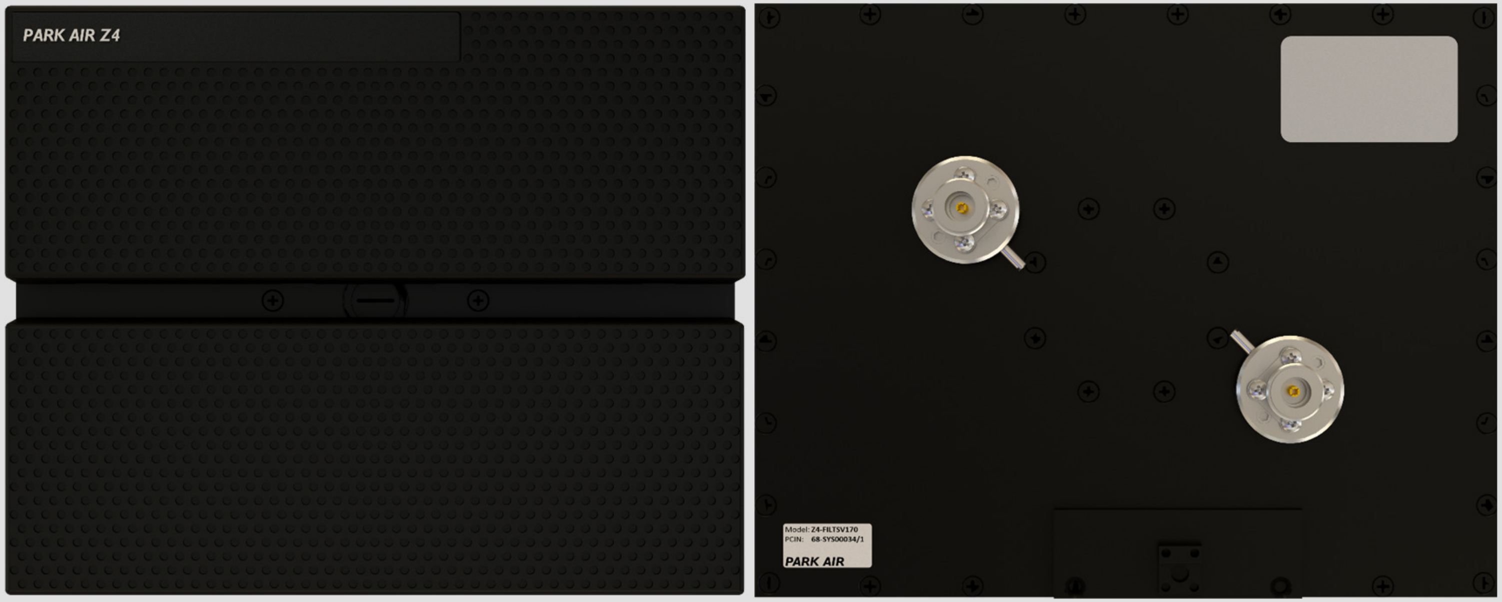




Other system components

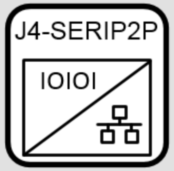
Z4 single 170mm fixed cavity filter

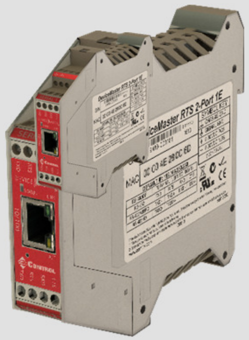




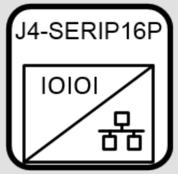
Serial-to-Ethernet converter

- The J4 2 port and 16 port serial-to-Ethernet converters take serial data from various system components and convert it to a standard Ethernet format



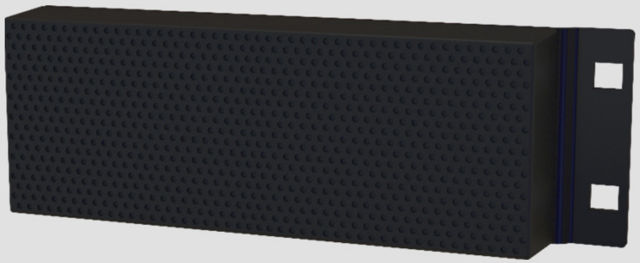


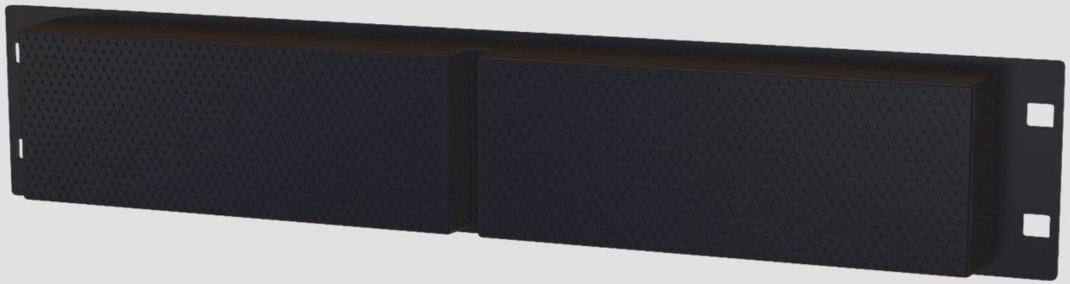




Blanking panels

- Full width
- Half width
- Half width, double height







Configuration of Park Air C4 Cabinets

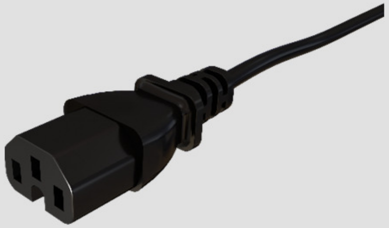
Cabinet wiring

- Power cables
- RF cables
- Ethernet Cat 5 cables

Power cables

- AC and DC cables are both black, DC cables are larger in diameter

- AC cables use IEC C16 connector

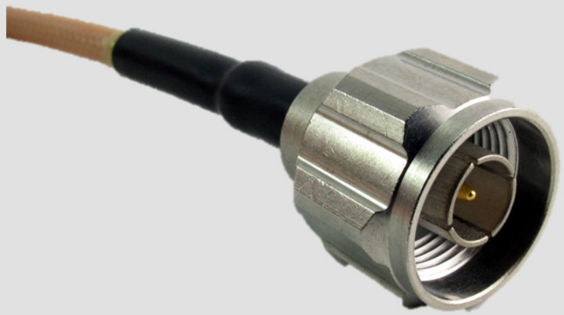


- DC cables use Anderson Saf-D connector



RF cables

- RG 142 cable and N-type connectors



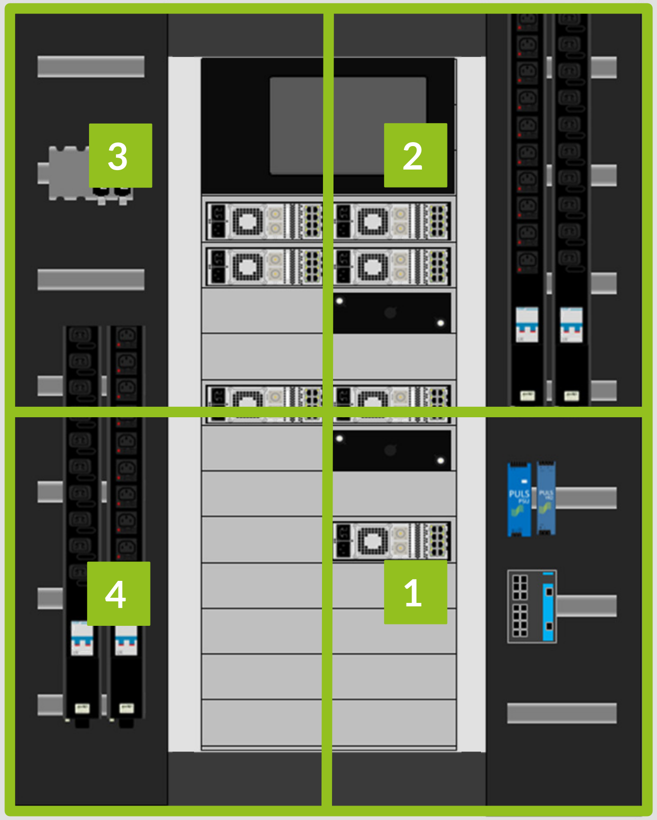
Ethernet cables

- Red - AUDIO 
- Orange - LINK 
- Yellow - FAC 
- Blue – E1 
- Grey - LAN 

Ethernet cable selection

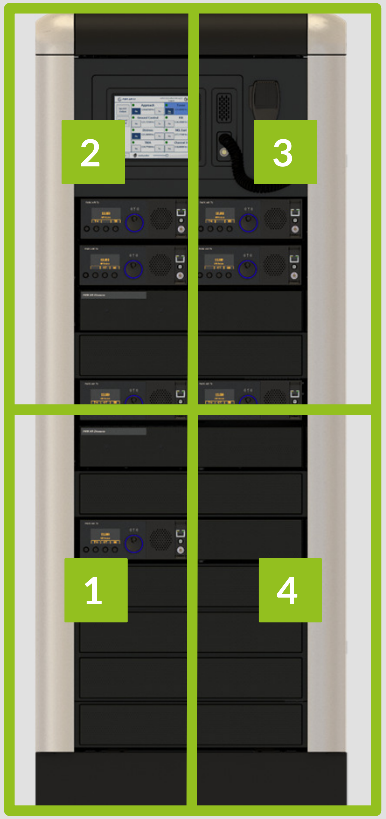
- Cabinet is divided into 4 quadrants and numbered



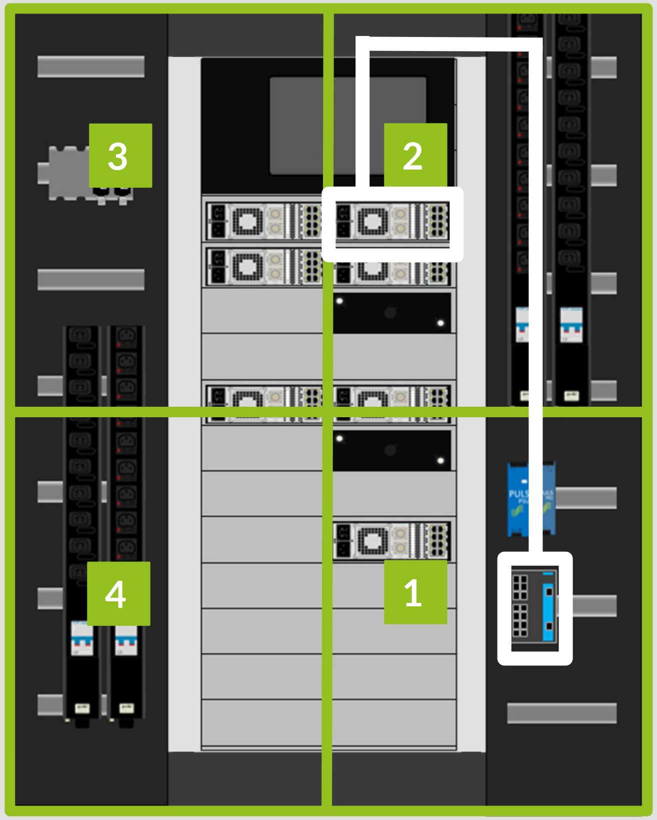


Ethernet cable selection

- In this example, a 3m cable length will be required



Quadrants	Length
0	2 m
1	3 m
2	4 m
3	5 m



Configuration of Park Air C4 Cabinets

Cabinet Shelf



Fitting shelf to cabinet



Fitting radio to shelf



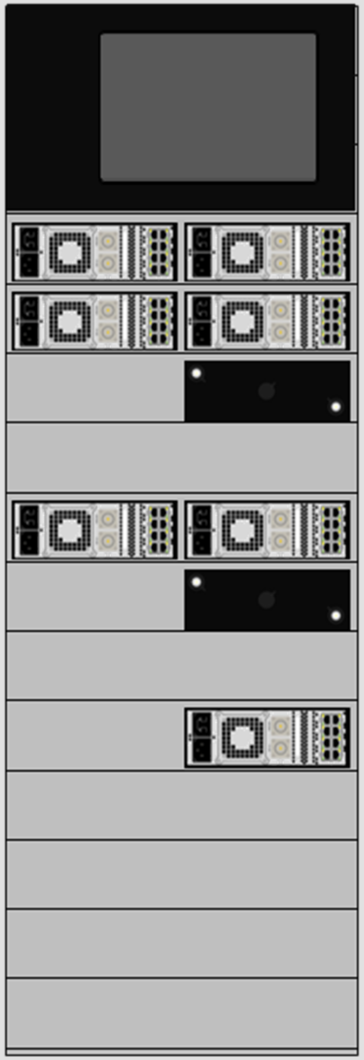
Fitting components to DIN rail



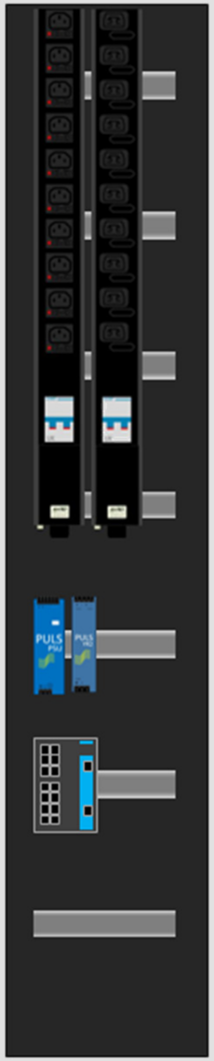
Configuration of Park Air C4 Cabinets

Cabinet view

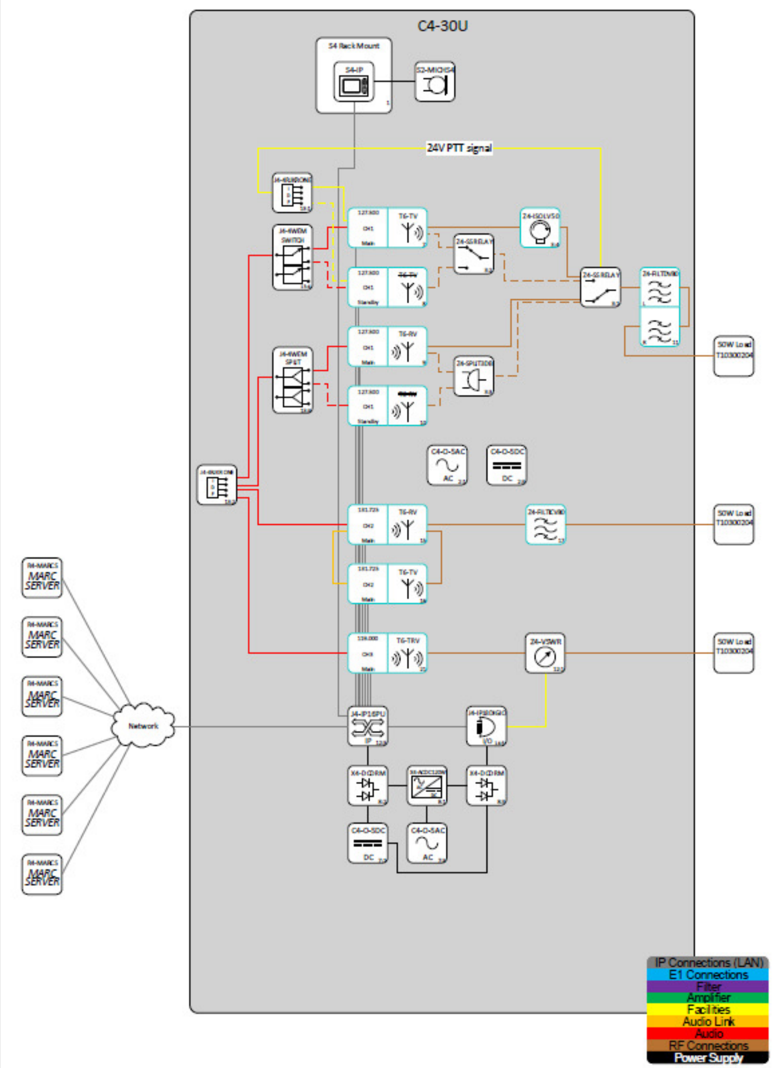








Cabinet schematic



Cabinet assembly practical

Using the equipment removed from the cabinet, you are to restore the cabinet to an operational condition

You have *20 minutes* to complete this group task. Your instructor will detail tasks within the group

Configuration of Park Air C4 Cabinets

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